

Japanese Examined Utility Model Registration Application

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## LOUDSPEAKER

### Brief Description of the Drawings

Fig. 1 is a diagrammatic vertical sectional view of a related loudspeaker that is publicly known, Fig. 2 is similarly a diagrammatic vertical sectional view of a loudspeaker according to the present device, and Fig. 3 is an enlarged sectional view of the main portion thereof.

### Summary of Features, Operations, and Advantages of Utility

#### Model

The present device relates to what is called a high-fidelity double-cone-type dynamic speaker having a substantially uniform frequency characteristic from tens of cycles to at least 10,000 cycles with the rapid advancement and development of recent recording/reproducing technologies.

and, more particularly, to a paper cone mounting structure thereof. Fig. 1 is a vertical sectional view of a structure of this type of related speaker.

In Fig. 1, reference numeral 1 denotes a magnet, reference numeral 2 denotes a yoke, reference numeral 3 denotes a sound coil frame, reference numeral 4 denotes a sound coil, and reference numeral 5 denotes a damper which holds the sound coil frame 3 substantially concentrically with the magnet 1. Reference numeral 6 denotes a low-sound main vibrating plate, and reference numeral 7 denotes a high-sound vibrating plate. The main vibrating plate 6 has a high-sound absorption curved wrinkle 8 and this is ordinarily disposed close to a frame mounting portion of the main vibrating plate to operate a mechanical wave filter with respect to a high-sound portion.

Ordinarily, in a reproduction frequency band, for cycles equal to or less than approximately 4000 cycles, the main vibrating plate 6 is used, and, for cycles equal to or greater than that, the high-sound vibrating plate 7 is used.

Hitherto, the main vibrating plate 6 and the high-sound vibrating plate 7 both have their narrow opening portions glued as they are to an extending portion of the sound coil frame 4. This operation is difficult to perform, and is, thus, not suitable for mass production.

The present device provides a structure in which, as

shown in Figs. 2 and 3, an opening 9 of a main vibrating plate 6 is contracted in two steps to dispose a horizontal annular portion 10. A sound coil frame 3 is extended slightly longer than in the related art and a minimum narrow portion 11 is glued to a side portion thereof. Above this, a high-sound vibrating plate 7 is glued to an inner side or an outer side of a frame 4.

According to the above-described structure of the device, in adhering the vibrating plates 6 and 7, since an opening at the horizontal annular portion 10 is widened, the adhesion operation is considerably facilitated. In particular, when the high-sound vibrating plate 7 is glued after adhering the main vibrating plate 6, the adhesion operation becomes considerably efficient, and is, thus, suitable for mass production. Moreover, the horizontal annular portion 10 also serves as a mechanical wave filter at the curved wrinkle 8 shown in Fig. 1, thereby providing a practical advantage of the main vibrating plate 6 not being vibrated with respect to the high-sound portion.

#### Claim

A loudspeaker structure in which, as shown in the drawings, a minimum narrow opening portion 11 of a main vibrating plate 6 having a substantially horizontal annular portion 10 formed as a result of contracting an opening 9 in

two steps is glued to an extending portion of a sound coil frame 3, a high-sound vibrating plate 7 is glued above the minimum narrow opening portion 11, and a high-sound shielding mechanical wave filter is formed by the horizontal annular portion.

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## 拡 声 器

## 図 面 の 解 説

第1図は従来公知の拡声器の線図的縦断面図、  
第2図は本案拡声器の同様の線図的縦断面図、第  
3図は其の要部の拡大断面図である。

## 実用新案の性質、作用及効果の要領

本案は最近録音再生技術の急速な進歩発達に伴  
い、数十サイクルより、一万サイクル以上迄ほぼ  
一様の周波数特性を持つた所謂高忠実度二重コー  
ン型ダイナミック・スピーカー特に其のペーパー  
コーンの装着構造に関する。第1図は従来の此の種  
スピーカーの構造を示す縦断面図である。

図中1は磁石、2はヨーク、3は音声線輪棒4  
は音声線輪、5は音声線輪棒3を磁石1とほぼ同  
心的に保持するダンパーである。6は低音用主振  
動板、7は高音用振動板で主振動板6は高音波収  
用屈曲部8を有し、普通主振動板の棒取付部に接  
近して之を設け、高音部に対する機械的濾波器の  
作用をさせる。

通常約4000サイクル以下は主振動板6、夫れ以  
上は高音用振動板7と、再生周波数帯域を分担さ  
れている。

従来之等主振動板6及高音用振動板7は何れも  
其の振動口部を音声線輪棒4の延長部に其の保糊

付するから工作が困難で量産の目的に適合しな  
い。

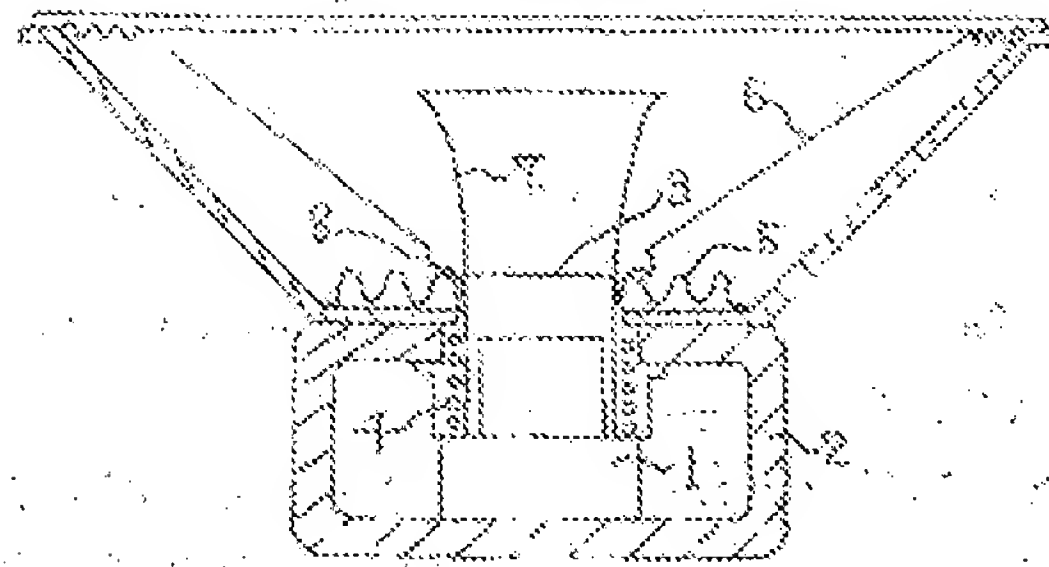
本案に於ては第2図及第3図に示す如く主振動  
板6の口部9を二段に縮小して、水平環状部10を  
設け、音声線輪棒3を従来よりも、やゝ長く延長  
し其の側部に最小狭部11を糊付し、其の上方に  
於て棒4の内側又は外側に高音用振動板7を糊付  
けする構造を特徴とする。

叙上の本案構造に依れば振動板6,7の貼着に当  
り水平環状部10丈け口が広くなるから、貼着作業  
は著く容易となり、特に主振動板6を貼つて後高  
音用振動板7を貼る際、作業は著く能率的となつ  
て量産に適し、然も此の水平環状部10は第1図の  
屈曲部8の機械的濾波器の役目を兼ね、高音部に  
対し主振動板6を振動させない実用上の効果があ  
る。

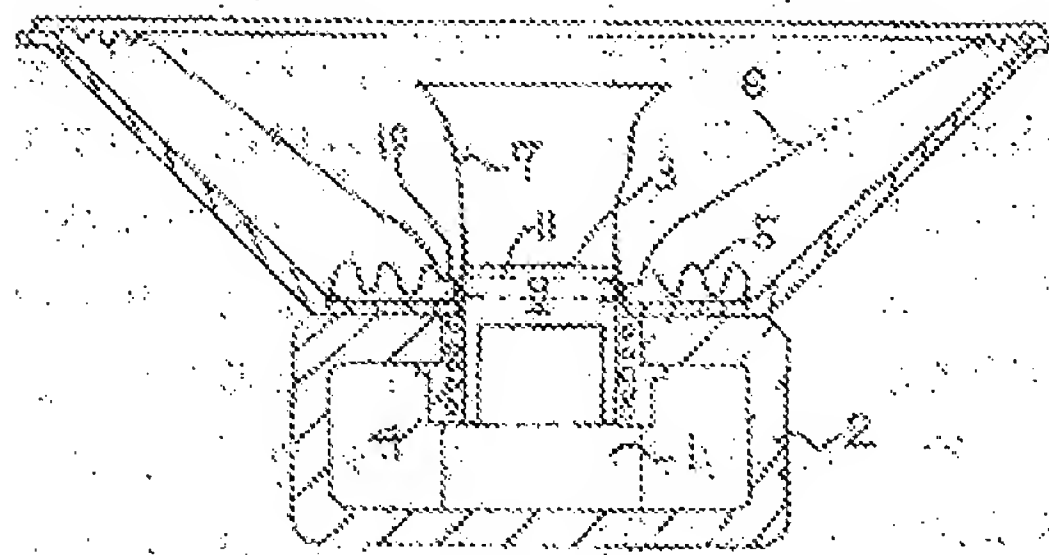
## 登 録 請 求 の 範 囲

図面に示すように音声線輪棒3の延長部上に口  
部9を二段に縮小してほぼ水平の環状部10を有す  
る主振動板6の最小狭部口部11を又其の上方に於  
て高音用振動板7を糊付けし、前記水平環状部に  
依り、高音遮断用の機械的濾波器を構成してなる  
拡声器の構造。

第1圖



第2圖



第3圖

